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Iraq: Postwar Role in the World Oil Market

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An Intelligence Assessment

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Key Judgments

Information available as of 1 August 1983 was used in this report.

Once the war with Iran ends, Iraq can quickly emerge as a major force in the world oil market. Because of pressing financial needs, Iraq will be inclined to pursue an aggressive export program soon after its capabilities are restored. Within the first year following the war, Baghdad should be able to increase export capacity by 2-2.5 million barrels per day (b/d). With petroleum demand expected to increase slowly over the next several years, however, oil market price stability will be threatened if Iraq unilaterally tries to raise its exports substantially in the postwar market.

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Maintaining price stability in the aftermath of the war would require substantial cutbacks in production by other major producers to make room for Iraq. Baghdad's Persian Gulf allies are the only producers financially able to accept further production cutbacks to assist Iraq. Saudi Arabia, in particular, is in the best position to accept a smaller oil market share and, along with the other Gulf states, could permit Iraq to increase its oil exports after the war. Even this, however, would be insufficient to stabilize prices in the absence of some restraint by Iran. Iraqi insistence on rebuilding exports at the same pace as its facilities can be restored would soon impose unacceptable sacrifices on other producers and would probably result in greater friction throughout the Persian Gulf and within OPEC, as well as sharply intensify pressure on oil prices. 25X1

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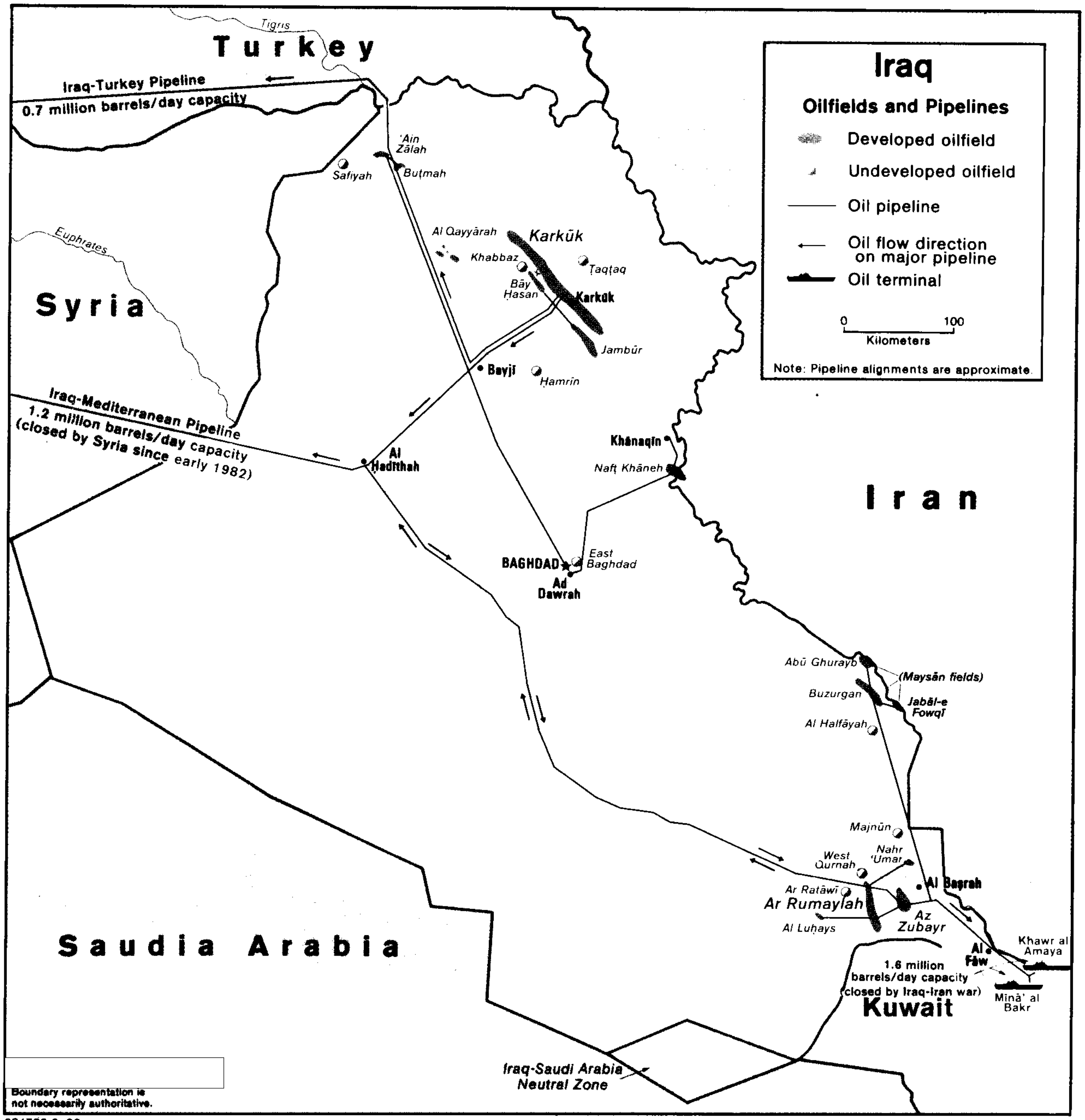

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[redacted]

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Iraq: Postwar Role in the World Oil Market [redacted] 25X1

Introduction

Iraq was OPEC's second-largest oil producer prior to the Iraq-Iran conflict, exporting more than 3 million barrels per day. In addition, Baghdad had announced in the 1980 five-year plan its intention to significantly expand productive capacity by 1990. Iraq's prewar oil strategy called for the development of substantial spare productive capacity in order to provide Baghdad a valuable bargaining lever, primarily aimed at curbing Saudi influence in the Persian Gulf. The war with Iran, however, caused extensive damage to key oil facilities and nearly eliminated Iraq as a significant oil exporter. The degree to which Iraq is able to restore exports and the timing of such an event will have a major impact on OPEC and the world oil market. [redacted]

Although Iraq's postwar decisions on oil strategy will be influenced by countless political, economic, and military considerations, we believe that Iraq's financial problems will make revitalization of its petroleum sector its primary reconstruction goal following the war. Increased exports of oil could bring in billions of dollars in additional foreign exchange earnings or barter credits. These revenues could reach $15-20 billion annually if Iraq were to restore and to utilize fully its prewar export capacity. [redacted]

Oil Facility Damage

Persian Gulf Loading Facilities. [redacted] both of Iraq's major Persian Gulf export facilities—Mina al Bakr and Khawr al Amaya—were heavily damaged by Iranian gunboat attacks early in the war. [redacted] the Iraqis believe that the Mina al-Bakr terminal eventually can be restored, but that the Khawr al-Amaya facility may have to be completely rebuilt:

[redacted]

[redacted]

- The decks and all ondeck equipment at Khawr al-Amaya were destroyed by fire and explosion. The substructure may also have been badly damaged by heat from the fire. [redacted] 25X1 25X1

The Al Faw tank farm and pump facility have been attacked repeatedly by the Iranians since the beginning of the war [redacted] the south tank farm, with a capacity of 5.7 million barrels, has had seven tanks destroyed and at least eight tanks damaged out of a total of 24 tanks. The north tank farm, with a capacity of 3.4 million barrels, suffered more extensive damage; 11 out of 27 tanks have been destroyed, and at least nine have been damaged. The pump and control areas at Al Faw also were damaged. [redacted] 25X1 25X1 25X1

Northern Iraq. Iranian airstrikes damaged the Karkuk Crude Processing Plant Number 1 in early December 1980. [redacted] the facility has resumed partial operations, although at least four of the processing units sustained damage: 25X1 25X1 25X1

- Two sulfur desorber plants, with a combined capacity of 640,000 b/d, sustained damage to their pumphouses as well as fire damage to the main processing units. Total prewar desorbing capacity at the facility was 1.2 million b/d. 25X1 25X1

- The pumphouses of two stabilizer units, with a combined capacity of 136,000 b/d, were also damaged. Total stabilizer capacity was 336,000 b/d. The cold stripping columns, which perform a function similar to the stabilizers and have a capacity of 442,000 b/d, were apparently undamaged. 25X1 [redacted] of the 12 major northern gas-oil separation plants (GOSPs) only one—at the Bay Hasan oilfield—has been damaged. Two spheroid tanks—which provide for low-pressure gas-oil separation—were damaged and parts of both the pipeline manifold and the pumphouse near the spheroids were destroyed. The separators as well as the pipe racks remain undamaged. [redacted]

Southern Iraq. [redacted] of 22 major GOSPs in southern Iraq only the North Ar Rumaylah Central GOSP and the Az Zubayr GOSP have sustained damage to crude oil storage tanks since the beginning of the war; the vital high-pressure separator vessels at these facilities appear undamaged. Strafing damage, however, cannot be ruled out. Repeated attacks on the Buzurgan Oilfield Petroleum Complex near the Iranian border have seriously damaged this facility. The complex processes and stores oil from three Maysan oilfields—Buzurgan, Abu Ghurayb, and Jabal-e Fauqi—which had a prewar productive capacity of about 160,000 b/d. All three Maysan fields are near the current battle zone. Indeed, the Iranians have physically overrun portions of the Abu Ghuraib oilfield. [redacted]

Oil Export Facility Restoration

Prior to the war, Iraq's crude oil export system was the most flexible in the Middle East. Total capacity of the system was more than 5 million b/d—well in excess of Iraq's prewar productive capacity of about 4 million b/d:

- Iraq's two Persian Gulf sea island export terminals at Mina al Bakr and Khawr al Amaya each had a capacity of 1.6 million b/d.
- The Iraq-Mediterranean pipeline system through Syria and Lebanon has a total potential capacity of 1.2 million b/d. In a move to support Iran, Damascus closed the line in early 1982.
- The Iraq-Turkey pipeline, Iraq's only remaining export outlet, has a current capacity of 700,000 b/d. [redacted]

When the war ends, we expect that Iraq will immediately begin repair of its Persian Gulf terminals and install the four single-point mooring buoys (SPMs) it has stockpiled in Bahrain since 1981. [redacted] the SPMs will be installed near the existing Khawr al Amaya and Mina al Bakr terminals [redacted]

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Once all four SPMs are installed, Iraq's Persian Gulf export capacity will increase to 2-2.5 million b/d. [redacted]

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Export pipelines to the Mediterranean will provide at least 1 million b/d of capacity. Regardless of the course of the war, we believe work on expanding the capacity of the Iraq-Turkey pipeline will continue. [redacted] The project [redacted] will increase the pipeline's present capacity to about 1 million b/d by mid-1984. If the end of the Iraq-Iran war also brings about a political rapprochement between Baghdad and Damascus, the reopening of the Iraq-Mediterranean pipeline system would immediately add to Iraq's available export potential. Problems in Lebanon and Syria's reluctance to allow Baghdad to restore the Syrian export terminal Baniyas to full operation, however, could limit throughput to about 400,000 b/d. [redacted]

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We believe the lessons learned from the Iraq-Iran war will encourage Baghdad to continue development of a highly redundant export system. Iraq's initiative to construct a 1.5 million b/d export pipeline across Saudi Arabia is recent evidence of this. Although Riyadh approved the proposal, Baghdad may be unable to arrange financing for the project [redacted] Even if work on this pipeline begins immediately, it will not be completed until late 1986 at the earliest. Full implementation of all its planned export facility construction, expansion, and repair programs would provide Baghdad a total export facility capacity of more than 9 million b/d within three years of war's end. Even if Iraq's expansion program is delayed, we believe that Baghdad will develop sufficient export facility capacity to have some flexibility in meeting export requirements. [redacted]

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Table 1
Iraq: Planned Export Capacity [a]

Million b/d

	Actual		Elapsed Time After War		
	1980	Current	Six Months	Eighteen Months	Three Years
Total	**5.1**	**0.7**	**2.4-3.2**	**3.4-4.7**	**6.6-9.4**
Mina al Bakr [b]	1.6				1.6
Khawr al Amaya	1.6				1.6
Gulf SPMs			1.0	2.0-2.5	2.0-2.5
Turkey pipeline	0.7	0.7	1.0	1.0	1.0
Iraq-Mediterranean pipeline system	1.2	0 [c]	0.4-1.2	0.4-1.2	0.4-1.2
Red Sea pipeline [d]					0-1.5

[a] Assuming the war ends without significant additional damage to Iraqi oil facilities.
[b] Temporary repairs could allow some additional, but limited, loading within a few months of war's end.
[c] Use of the 1.2 million b/d capacity pipeline will not be available until political differences between Syria and Iraq are resolved.
[d] A final decision has not been made on the construction of this pipeline through Saudi Arabia.

[redacted] 25X1

Production Facility Restoration

The damage inflicted on Iraqi oil production and processing facilities will probably not constrain output significantly in the war's immediate aftermath. Indeed, productive capacity will probably exceed export capacity for the first year after the war; Iraq should be able to restore all damaged oil production and transmission facilities within 12 to 18 months. Excellent preparatory work by Baghdad will eliminate postwar delays in repairing critical oil facilities. [redacted] Because of continuing slack demand in the oil equipment industry, we expect Iraq to have no serious problems promptly replacing standardized items, such as pipes, valves, and pumps. These preparations should save Iraq anywhere from three to 18 months, depending on the type of units involved. [redacted]

In our view, the loss of most of the storage capacity at the Al Faw tank farms could hurt Iraq's production and export capability. Although Iraq needs only a limited amount of storage capacity to resume exports, its ability to sustain large-volume loading operations will be restricted without additional tankage. Without sufficient storage, oil production would have to be substantially reduced, if not stopped, because of bad weather or tanker scheduling problems. We believe the additional tankage necessary to resume large- 25X1
scale loading operations could be available within 12 25X1
to 18 months of war's end. It may take several years, however, to restore the crude oil tank farms to their original capacity. After sufficient tankage is available to maintain near-normal export levels, we believe 25X1
additional tank installations will be evaluated against the other pending tank farm and storage depot projects. Iraq currently has plans for at least 12 separate

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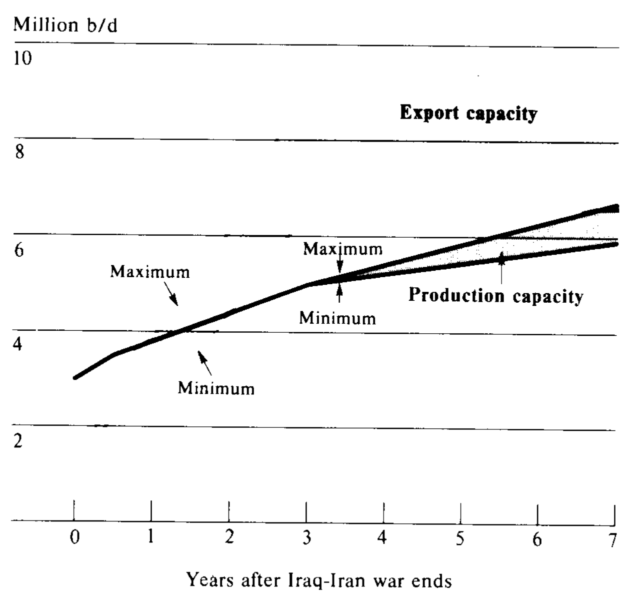
Iraq: Postwar Oil Expansion Potential



[redacted]
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tank farm construction projects that require the installation of several hundred new tanks for water, crude oil, and refined product storage. [redacted]

The postwar availability of other damaged facilities will depend in large part on Iraq's ability to perform repairs while the war continues. [redacted] Iraq began repair efforts at the Karkuk Crude Processing Plant shortly after it was damaged, and Baghdad plans to replace and upgrade the lost capacity at this facility [redacted] On the other hand, repairs to the damaged Maysan oil facilities, which are on the Iraq-Iran border and in the current battle zone, will have to wait until after the war. [redacted]

Long-Term Oil Plans

Following the restoration of damaged facilities, we believe Iraq's next priority will be to expand export and production capacity. Although Baghdad is depending on its undeveloped fields to provide the cornerstone of its oil capacity expansion program, upgrading production capability in developed fields offers Baghdad an immediate return on its investment. The need to rearm and efforts to rebuild other aspects of Iraq's war-torn economy, however, may force Baghdad to slow its ambitious oil development plans. [redacted] 25X1

We conclude from our examination of INOC's long-term oil development plans that with effective postwar development Iraq's overall sustainable productive capacity could climb to 5 million b/d—roughly 25 percent above prewar levels—within three years of war's end. Capacity from developed fields in southern Iraq would increase from a prewar level of 2.3 million b/d to about 2.8 million b/d. An additional 500,000 b/d of capacity could also be brought on stream from southern fields currently under development. Capacity in the northern oilfields would be maintained at about 1.7 million b/d. Oilfields in central Iraq will probably add only marginally to productive capacity in the first three years of postwar development. [redacted] 25X1

Baghdad's long-term plans call for development of three new potential supergiant fields [1]—Majnun, West Qurnah, and East Baghdad—as well as seven smaller fields. Although the complexity of these fields makes performance difficult to predict, Iraq claims production from these fields would ultimately reach 2 million b/d. Development of the new and existing reservoirs could enable Iraq to achieve and maintain a productive capacity of 6 million b/d or more without relying on the West Baghdad region, an area of unknown potential west of the Euphrates River. [redacted] 25X1

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[redacted]

[1] The supergiant category includes those fields with reserves of 5 billion barrels or more. [redacted] 25X1

Table 2
Iraq: Projected Maximum Sustainable Capacity [a]

Million b/d

	Actual		Elapsed Time After War		
	1980	Current [b]	Six Months	Three Years	Seven Years
Total [c]	**4.1**	**3.0**	**3.5**	**5.0**	**5.9-6.7**
Developed fields					
Northern Iraq	1.8	1.0	1.3	1.7	1.4
Karkuk	1.4	0.9	1.2	1.4	1.0
Bay Hasan	0.3	NEGL	NEGL	0.2	0.2
Jambur	0.1	0.1	0.1	0.1	0.1
Ain Zalah and Butmah	NEGL	NEGL	NEGL	NEGL	NEGL
Naft Khaneh	NEGL	NEGL	NEGL	NEGL	NEGL
Al Qayyarah	NEGL	NEGL	NEGL	NEGL	NEGL
Southern Iraq	2.3	2.0	2.2	2.8	3.0-3.4
South Ar Rumaylah	1.4	1.4	1.4	1.4	1.1
North Ar Rumaylah	0.7	0.4	0.6	0.9	0.2
Az Zubayr	0.1	0.1	0.1	0.2	0.3
Al Luhays	0.1	0.1	0.1	0.1	0.1
Nahr Umar	NEGL	NEGL	NEGL	NEGL	0.1-0.5
Maysan (three fields)	0.2	0	0	0.2	0.2
Undeveloped fields					
Northern Iraq					
Safiyah				NEGL	NEGL
Hamrin					
Khabbaz					
Taqtaq					
Southern Iraq				0.5	0.3
Al Halfayah				0.1	0.2
West Qurnah				0.2	0.2
Ar Ratawi				NEGL	NEGL
Majnun				0.1	0.9
Central Iraq					0.2-0.6
East Baghdad				NEGL	0.2-0.6
West Baghdad					

[a] Assuming the war ends without further significant damage or deterioration of existing oil facilities and reservoirs.
[b] Assumes the maximum loss of productive capacity probable from currently known damage.
[c] Because of rounding, components may not add to totals shown.

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Constraints on Oil Capacity Expansion

As long as the war continues, Baghdad will find it impossible to revitalize its ambitious oilfield development program:

- *The drain on financial resources will severely restrict Iraq's ability to pay for expensive development projects.*
- *Contractors will be reluctant to continue with work because of the danger to their personnel. This is especially true in the vital southern areas.*
- *The logistics of bringing in equipment and supplies overland will add to development costs.*

Even after a ceasefire, the Iraqi oil industry will face a number of problems in quickly expanding its export and production capacity. Failure to overcome these problems could delay or prevent Iraq from achieving its capacity targets. 25X1

Funding limitations, resulting from competing demands on limited revenues, will probably force Iraq to slow its ambitious development plans. Since the start of the war and the loss of its oil export capability, Iraq's official foreign assets have dwindled while its foreign debt has grown. According to our estimates, Iraqi foreign assets dropped by about $25 billion, falling to a current level of about $5 billion. *Considering its financial situation, foreign lenders may be reluctant to extend Iraq the credit required to rebuild its oil sector.*

Although Iraqi reservoirs appear capable of being exploited at the targeted production rates, there have historically been technical problems that could delay postwar development. A Soviet-designed water injection program for pressure maintenance and secondary recovery in the Karkuk field resulted in Iraq having to reduce production to prevent water bypassing oil pockets and reducing ultimate recovery from the field. Water encroachment is also a problem in the North and South Rumaila oilfields and could result in lowered production capacity there.

Most of the problems experienced in the last decade, such as Karkuk's water injection program, were directly related to Iraq's reliance on allied Soviet technical assistance. The Communist countries have been prone to promise far more than they can deliver by way of oil reservoir and facility engineering expertise. 25X1 25X1

INOC has also experienced significant managerial problems in carrying out previous oil development programs, a problem that could be partially eliminated by allowing Western firms more operational latitude. Prior to the current conflict, oilfield expansion and pressure maintenance projects in Rumaila and feasibility studies for the West Baghdad area and design work for critical facilities at Majnoon were substantially behind schedule. 25X1 25X1 25X1

General postwar reconstruction could intensify labor shortages in the Iraqi oil sector. Skilled and semiskilled domestic manpower supplies were insufficient even before the war and senior technical officials continue to seek jobs outside Iraq. Iraq could overcome some of its postwar labor problems by assigning a higher priority to oil development projects at the expense of other sectors of the economy. The rest of the labor problem is likely to be solved by project contractors importing foreign labor. 25X1 25X1 25X1

[redacted]

We believe Iraq will increasingly turn to Western oil equipment manufacturers and engineering companies for assistance in carrying out its complex development program. Iraq has already shown an increased willingness to seek technical assistance from Western firms, largely because of the shortcomings of work performed by Soviet-allied countries. [redacted] We expect those companies that have operating experience in Iraq will have the advantage in competing for major postwar projects. A critical factor for obtaining Iraqi contracts, however, will be the willingness of Western companies to offer favorable credit terms or accept payments made in oil through long-term contracts. [redacted]

Oil Market Implications

Short-Term Risks. Should Iraq be able to expand its exports substantially in the next two to three years, soft oil market conditions would pose serious problems for producers attempting to maintain oil prices. [redacted] the demand for OPEC oil is likely to increase slowly during the next few years, perhaps rising to only about 22 million b/d by 1985. In these market circumstances, the chances of an oil price decline will be quite high, especially if both Iran and Iraq attempt to increase postwar exports. Indeed, oil prices could drop sharply if Baghdad alone were to attempt to increase exports by 2 million b/d or so without offsetting reductions by other OPEC members. A sharp drop in the world oil price would also add to the serious financial disarray of several oil-producing countries—particularly Nigeria, Indonesia, Venezuela, and Mexico—which are already experiencing major cash-flow and debt-rescheduling problems.[2] [redacted]

[redacted]

Avoiding this outcome will depend largely on Saudi Arabia. Riyadh has two policy options available to influence Baghdad's postwar oil policy and its affect on the market: 25X1

- Increased financial aid to Iraq as an inducement to limit any postwar increase oil exports.
- Reduce Saudi oil output to make room for increased Iraqi oil sales.

The cost to Saudi Arabia of maintaining price stability could be too great if Iran also attempts to increase substantially its postwar oil exports. Despite three years of fighting, relatively little damage has occurred to Iranian oil production and export facilities. Based on what we know of the condition of the facilities, we believe the Iranians could raise production by more than 1 million b/d with two years of repair and development leadtime. We would not expect Tehran, at least initially, to be cooperative and restrain its own output to allow Iraq to increase its market share. [redacted] 25X1 25X1 25X1

Long-Term Stability. If OPEC countries can cooperate enough to avoid serious market instability in the short run, the availability of Iraqi and Iranian capacity over the longer term will be a stabilizing influence on the market. Most industry forecasts project a gradually tightening oil market beginning late in the decade with the possibility of real oil price increases during the 1990s. Additional productive capacity in Iraq and Iran could be a key factor in minimizing or avoiding these price pressures, particularly if the present soft oil market causes some other producers to trim their productive capacity levels. The Saudis, for example, are already trimming sustainable capacity by 2.5 million b/d from a current level of 10 million b/d. Beyond this, the availability of 5 million b/d of Iraqi capacity along with some extra Iranian capacity would provide an important additional market cushion against supply disruptions from other areas. Therefore, although an early end to the Iraq-Iran war could create some instability in the oil market over the next few years, long-term stability may heavily depend on the increased availability of Iraqi productive capacity. [redacted] 25X1 25X1 25X1 25X1